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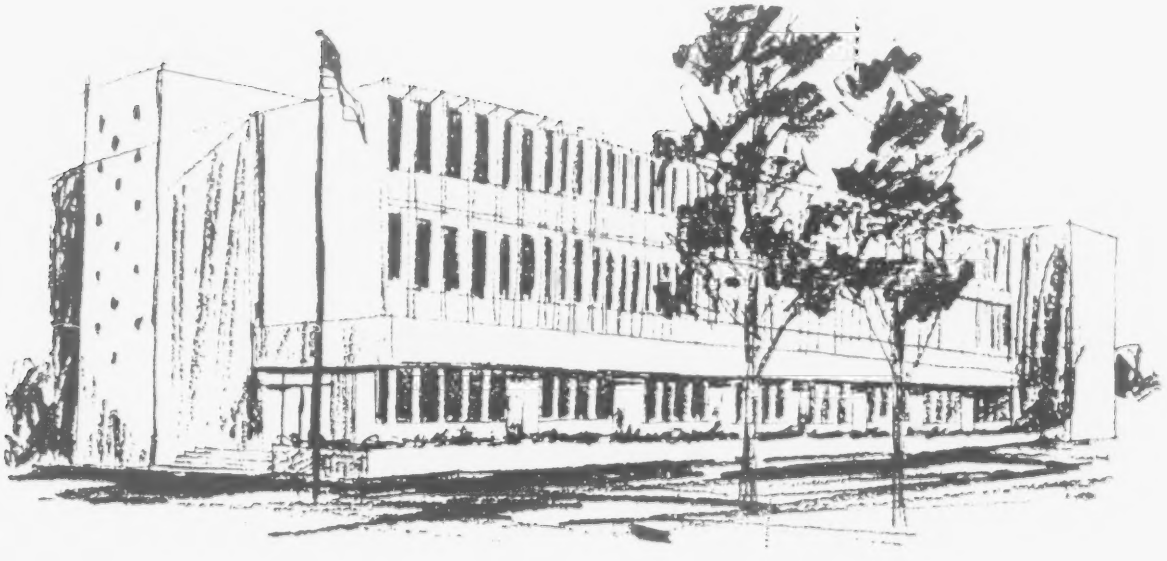
Analysis of the Energy Use of 323 Hotels and Motels

1980



ENERGY TECHNICAL CENTER
THE HOSPITALITY, LODGING
& TRAVEL RESEARCH FOUNDATION · INC.
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This report is available from

Publications Department
American Hotel & Motel Association
888 Seventh Avenue
New York, NY 10019

Price per copy - $5.00

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200/6/81

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FOREWORD

This report contains the 1980 energy use data for 323 hotel/motel properties located in 39 states and the District of Columbia. It compares the energy use of the same properties for 1979 and 1980.

The 1979 versus the 1980 energy use data of each of the 270 conventional hotels/motels is listed in Appendix A by size (number of guest rooms). Appendix B lists the energy use of 53 all-electric properties - 1979 versus 1980. Appendix C includes a listing of all 323 properties by location (state and region).

The 1980 data represents properties with a total of 71,137 guest rooms and a total interior building area of 40,332,913 square feet. The total energy requirement of the 323 properties was 5.56 trillion Btu's - an average of 137,801 Btu/sq ft/yr, down from 143,055 Btu/sq ft in 1979.

It is estimated that the 1980 data represents 4.4 percent of the total number of properties and 7.4 percent of the total number of rooms of the U.S. membership of the American Hotel and Motel Association as of December 31, 1980.

	AH&MA U.S. Membership	323 Properties 1980	Percent of AH&MA (U.S.)
Number of Properties	7,307	323	4.4
Number of Rooms	967,352	71,137	7.4

Since the Energy Technical Center came into being in early 1977, the staff has conducted annual energy use surveys. The continuing analysis of the energy use over the past four years is highly indicative that the industry has made substantial strides in energy conservation and management practices.

The following is a summary of annual energy use surveys conducted by the Energy Technical Center for the years 1977, 1978, 1978 and 1980.

	1977	1978 vs 1979 (Same Properties)		1979 vs 1980 (Same Properties)	
No. of Properties	210	284	284	323	323
No. of Guest Rooms	59,648	68,911	69,368	70,311	71,137
Total Sq Ft (Millions)	42.6	40.4	40.8	39.8	40.3
Total Energy Use (Trillions of Btu's)	7.7	6.2	5.9	5.7	5.6
Btu/sq ft/yr	181,685	153,308	143,977	143,055	137,801
Indicated decrease in Energy Use					
...1978 versus 1977	---	15.6			
...1979 versus 1978	---	---	6.1		
...1980 versus 1979	---	---	---	---	3.7
...1980 versus 1977	---	---	---	---	24.2

Even with the hospitality industry's improvement in energy use over the past four years, the cost of energy has increased at an even greater pace. In 1980 the national average annual cost of energy per square foot of property was an estimated $1.40, up from $1.08 in 1979. And, in mid-1981 indications are that the average cost of energy will continue to increase at a 15 to 20 percent annual rate. Now, more than ever, increased and effective energy management practices are essential to the continued growth and financial well-being of the hospitality industry.

* * *

ANALYSIS OF THE ENERGY REQUIREMENTS OF 323 HOTELS AND MOTELS - 1980 versus 1979

Introduction

The analyses of the energy requirements of 323 hotels/motels properties contained in this report are considered in two different aspects -

...energy requirements by size of property (number of guest rooms);

...by location (geographical area)

Appendix A lists the 1980 versus 1979 energy use data of each of the 270 properties with conventional energy systems by size of property. (Properties with conventional energy systems are defined as those where a combination of electricity and fossil fuel(s) are used for the operation of the property and comfort and needs of the guests.)

No. of Guest Rooms	No. of Conventional Properties
Up to 150 rooms	107
151 to 200 rooms	59
201 to 300 rooms	67
301 to 500 rooms	21
Over 500 rooms	16
Total	270

Appendix B lists the 1980 versus 1979 electricity use of the 53 all-electric properties by size of property.

No. of Guest Rooms	No. of All-Electric Properties
Up to 75 rooms	18
76 to 150 rooms	29
Over 150 rooms	6
Total	53

Appendix C is a listing of the 323 properties (both conventional systems and all-electric) by state and regional location.

Region	No of Properties
Northeast	24
Midwest	63
Southeast	114
South Central	56
Rocky Mountain	25
Pacific Coast	41
Total	323

Location and Size Distribution of 323 Properties

Hotels and motels included in this report are located in 39 states and the District of Columbia. Table 1 is a summary of Apendices A and B and lists the properties by state location and size. Figure 1 graphically illustrates the number of properties by state location.

Diversity of Energy Use

To illustrate the wide diversity in energy use of the 323 properties, the following is an assessment of the percentage, or number of properties, that fell within certain numerical ranges of usage.

	Btu/Sq Ft/Yr
Minimum property	56,905
32 properties (10%) were less than	84,260
65 properties (20%) were less than	99,950
130 properties (40%) were less than	118,130
162 properties (50%) were less than	125,200
Average - All Properties	137,801
194 properties (60%) were less than	135,350
258 properties (80%) were less than	157,200
291 properties (90%) were less than	173,400
Maximum property	292,405

Energy Values

Throughout this report the following values were used for the various energy sources.

Energy Source	Unit	Value in British Thermal Units
Electricity	Kwh	3,412 Btu
Natural Gas	Therm or 100 Cu Ft	100,000 Btu
Fuel Oil	gallon	140,000 Btu
Propane	gallon	91,500 Btu
Steam	pound	1,000 Btu

Table 1

Location and Size of 323 Hotel/Motel Properties
(1980 versus 1979 Energy Use Data on
File at ETC as of June 1, 1981)

State	Up to 150 Rooms	151 to 200 Rooms	201 to 300 Rooms	301 to 500 Rooms	Over 500 Rooms	Total Properties
Alabama	0	2	3	0	0	5
Alaska	0	0	1	0	0	1
Arizona	7	1	0	0	0	8
Arkansas	2	0	2	0	0	4
California	16	4	6	4	3	33
Colorado	6	2	0	0	0	8
Connecticut	0	1	1	0	0	1
Dist. of Columbia	1	1	0	0	0	2
Florida	8	2	7	2	0	19
Georgia	7	1	1	0	1	10
Hawaii	0	0	1	1	1	3
Idaho	0	1	0	0	0	1
Illinois	0	1	5	2	2	10
Indiana	1	2	2	0	0	5
Kansas	1	0	0	0	0	1
Kentucky	5	3	0	0	0	8
Louisiana	4	2	2	0	1	9
Maryland	1	0	1	0	0	2
Massachusetts	1	0	1	0	1	3
Michigan	1	3	2	0	0	6
Minnesota	2	4	0	3	1	10
Mississippi	2	1	2	0	0	5
Missouri	1	1	5	0	0	7
Nevada	0	1	2	0	2	5
New Hampshire	2	0	0	0	0	2
New Mexico	1	0	1	0	0	2
New York	2	4	2	1	1	10
N. Carolina	10	1	0	0	0	11
Ohio	10	2	5	3	0	20
Oklahoma	1	1	1	0	0	3
Oregon	1	0	0	1	0	2
Pennsylvania	1	0	1	1	1	4
S. Carolina	10	3	1	0	0	14
Tennessee	10	5	9	1	1	26
Texas	24	10	3	2	1	40
Utah	0	1	0	0	0	1

Table 1 (Cont'd)

Location and Size of 323 Hotel/Motel Properties
(1980 versus 1979 Energy Use Data on
File at ETC as of June 1, 1981)

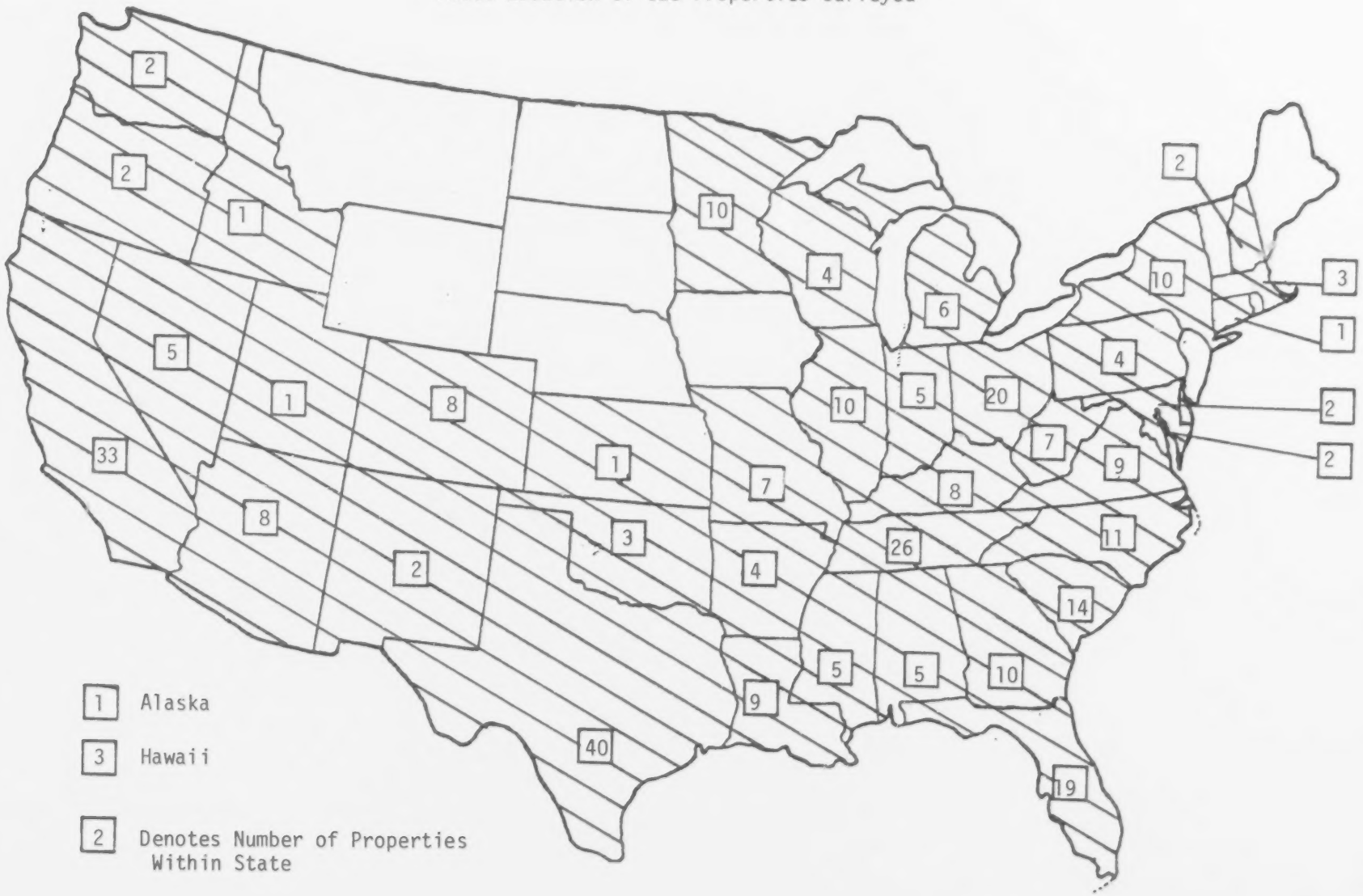
State	Up to 150 Rooms	151 to 200 Rooms	201 to 300 Rooms	301 to 500 Rooms	Over 500 Rooms	Total Properties
Virginia	8	1	0	0	0	9
W. Virginia	5	1	1	0	0	7
Washington	1	0	1	0	0	2
Wisconsin	2	2	0	0	0	4
Totals	153	64	68	22	16	323

Above 323 properties represent:

40,332,913 sq ft of building area
71,137 guest rooms

Figure 1

State Location of 323 Properties Surveyed



ANALYSIS OF THE ENERGY REQUIREMENTS OF 270 HOTELS AND MOTELS - 1980 versus 1979

By Number of Guest Rooms

Appendix A presents the 1980 and 1979 energy use data for each of the 270 hotel/motel properties contained in the survey with conventional energy systems (electricity/fossil fuel) and is organized by number of guest rooms of each property. These data are the basis for the analyses contained in this section of the report.

Table 2 compares the 1980 with the 1979 energy requirements of the 270 conventional properties included in this survey. The table indicates that the average annual energy use by property size was as follows:

Size of Property	Btu/Sq Ft/Yr 1979	1980
...Up to 150 rooms (107 properties)	134,658	130,193
...151 to 200 rooms (59 properties)	146,501	139,609
...201 to 300 rooms (67 properties)	140,362	131,948
...301 to 500 rooms (21 properties)	138,236	128,696
...Over 500 rooms (16 properties)	154,224	152,428
...Average for 270 properties	145,070	139,563

Percentage-wise, on the basis of number of guest rooms, the distribution in 1980 of the 270 conventional properties was as follows:

Size of Property	% of Total Properties	% of Total Sq Ft	% of Total Energy Requirements
Up to 150 Rooms 107 properties	39.6	14.6	13.6
151 to 200 Rooms 59 properties	21.9	13.8	13.8
201 to 300 Rooms 67 properties	24.8	21.8	20.6
301 to 500 Rooms 21 properties	7.8	14.3	13.2
Over 500 Rooms 16 properties	5.9	35.5	38.8
	100.0	100.0	100.0

The above tabulation indicates that 107 properties (up to 150 rooms), or 39.6% of the total properties, used only 13.6% of the total annual energy requirement, while 16 properties (over 500 rooms), or 5.9% of total properties, used 38.8% of the annual energy requirements.

From Table 2 it is also indicated that as the size (number of guest rooms) of the property increases, the square feet per guest room also increases. This reflects the high ratio of public area to guest room area that is characteristic of the larger hotels.

Size of Property-1980	Sq Ft per Guest Room
Up to 150 rooms	458
151 to 200 rooms	508
201 to 300 rooms	515
301 to 500 rooms	673
Over 500 rooms	742
Average - All Properties	587

Guest Room Distribution by Size of Property

The following tabulation shows the distribution of guest rooms by size of property. Note that those properties over 500 rooms represent only 5.9% of total properties, but account for 28.1% of total rooms. On the other hand, those properties of less than 150 rooms represent 39.6% of total properties but only 18.7% of total rooms.

Size and No of Properties	No of Rooms Represented	Percent of Total Rooms	Average No. of Rooms Per Property
Up to 150 rooms (107 properties	12,156	18.7	114
151 to 200 rooms (59 properties)	10,427	16.0	177
201 to 300 rooms (67 properties)	16,145	24.7	241
301 to 500 rooms (21 properties)	8,119	12.5	387
Over 500 rooms (16 properties)	18,301	28.1	1,144
270 Properties	65,148	100.0	241

Use of Electricity By Size of Property

Table 3 indicates that the use of electricity of the 270 properties in 1980 ranged from 17.7 Kwh/sq ft/yr for properties "301 to 500 rooms" to 19.9 Kwh/sq ft for properties "151 to 200 rooms". The average for all properties was 19.0 Kwh/sq ft/yr. (64,949 Btu's/sq ft)

Use of Fossil Fuels - By Size of Property

Table 4 lists fossil fuel use by size of property (number of guest rooms). The 270 properties with conventional energy systems surveyed had an average requirement in 1980 of 74,614 Btu's/sq ft versus 78,372 Btu's/ sq ft versus 78,372 Btu's/sq ft in 1979; a decrease of 4.8 percent.

Fossil fuels used included natural gas, fuel oil, purchased steam and propane. Natural gas represented 78.6% of the fossil fuel requirements.

ENERGY SOURCES

1979 and 1980

	1979		1980	
	Btu (Millions)	Percent	Btu (Millions)	Percent
Electricity	2,619,339	45.5	2,482,230	46.5
Fossil Fuels	3,138,062	54.5	2,851,581	53.5
Total	5,757,401	100.0	5,333,881	100.0
Fossil Fuels				
Natural Gas	2,748,942	87.6	2,239,625	78.6
Steam (Purchased)	229,079	7.3	553,801	19.4
Fuel Oil	144,351	4.6	37,998	1.3
Propane	15,690	0.5	20,157	0.8
Total	3,138,062	100.0	2,851,581	100.0

Energy Sources

The mix of energy requirements (electricity and fossil fuels) in 1980 by number of guest rooms of the 270 properties analyzed (Table 5) shows that the smaller properties (up to 150 rooms) used 49.3 electricity and 50.7% fossil fuel - mainly natural gas. The large properties (over 500 rooms) had a mix of 42.2% electricity and 57.7% fossil fuels. The average for all properties was 46.5% electricity, 53.5% fossil fuels.

Table 2

Annual Energy Requirements
(1980 versus 1979)
270 Hotels/Motels with Conventional Energy Systems

By Number of Guest Rooms

	Total Sq Ft		Total Btu's (Millions)		Average Btu Sq Ft		Decrease
	1979	1980	1979	1980	1979	1980	1980 vs 1979
Up to 150 Rooms (107 properties)	5,542,318	5,570,811	746,315	725,279	134,658	130,193	-3.3%
151 to 200 Rooms (59 properties)	5,195,894	5,293,069	761,206	738,961	146,501	139,609	-4.7%
201 to 300 Rooms (67 properties)	8,076,376	8,314,776	1,133,616	1,097,116	140,362	131,948	-6.0%
301 to 500 Rooms (21 properties)	5,304,743	5,463,909	733,307	703,181	138,236	128,696	-6.9%
Over 500 Rooms (16 properties)	13,605,260	13,575,395	2,098,261	2,069,274	154,224	152,428	-1.2%
Total - 270 Properties	37,724,591	38,217,960	5,472,705	5,333,811	145,070	139,563	-3.8%

Table 3

Use of Electricity
(1980 versus 1979)
270 Hotels/Motels with Conventional Energy Systems

By Size of Property

	Total Square Feet		Total Electric (MM Btu)		Btu/Sq Ft/Yr		Kwh/Sq Ft/Yr	
	1979	1980	1979	1980	1979	1980	1980	1979
Up to 150 Rooms (107 properties)	5,542,318	5,570,811	364,265	357,771	65,724	64,222	19.3	18.8
151 to 200 Rooms (59 properties)	5,195,894	5,293,069	358,563	359,405	69,009	67,901	20.2	19.9
201 to 300 Rooms (67 properties)	8,076,376	8,314,776	561,780	562,856	69,558	67,693	20.4	19.8
301 to 500 Rooms (21 properties)	5,304,743	5,463,909	342,930	329,204	64,646	60,251	18.9	17.7
Over 500 Rooms (16 properties)	13,605,260	13,575,395	888,601	872,994	65,313	64,307	19.1	18.8
All Properties	37,724,591	38,217,960	2,516,139	2,482,230	66,697	64,949	19.5	19.0

Table 4

Use of Fossil Fuels
(1979 versus 1980)
270 Hotels/Motels with Conventional Energy Systems

(By Size of Property)

	Total Sq Ft		Total (MM Btu)		Btu/Sq Ft/Yr		Decrease
	1979	1980	1979	1980	1979	1980	1980 vs 1979
Up to 150 Rooms (107 properties)	5,542,318	5,570,811	382,050	367,508	68,933	65,970	-4.3%
151 to 200 Rooms (59 properties)	5,195,894	5,293,069	402,643	379,556	77,493	71,708	-7.5%
201 to 300 Rooms (67 properties)	8,076,376	8,314,776	571,836	534,260	70,804	64,254	-9.3%
301 to 500 Rooms (21 properties)	5,304,743	5,463,909	390,377	373,977	73,590	68,445	-7.0%
Over 500 Rooms (16 properaties)	13,605,260	13,575,395	1,209,660	1,196,280	88,911	88,121	-0.9%
270 Properties	37,724,591	38,217,960	2,956,566	2,851,581	78,372	74,614	-4.8%

Table 5

Energy Source of 270 Hotels/Motels
with
Conventional Energy Systems
1980 versus 1979

(By Size of Property)

	Percent Electricity			Percent Fossil Fuel		
	1979	vs	1980	1979	vs	1980
Up to 150 Rooms (107 properties)	48.8		49.3	51.2		50.7
151 to 200 Rooms (59 properties)	47.1		48.6	52.9		51.4
201 to 300 Rooms (67 properties)	49.6		51.3	50.4		48.7
301 to 500 Rooms (21 properties)	46.8		46.8	53.2		53.2
Over 500 Rooms (16 properties)	42.3		42.2	57.7		57.8
Average - All Properties	46.0		46.5	54.0		53.5

ANALYSIS OF THE ENERGY REQUIREMENTS OF 53 ALL-ELECTRIC HOTELS/MOTELS

The 1980 report on the energy requirements of 323 hotels/motels included, as stated previously, a comparison of the energy use of 53 all-electric hotels for the years 1979 and 1980. The complete listing of the individual properties is contained in Appendix B.

The 53 all-electric properties ranged in size from 50 guest rooms to 350 guest rooms and were located in 16 states. Of the 53 all-electric properties included in this survey, 38 or 72% are located in the Atlantic coast states.

Table 6 is a listing of the 53 all-electric properties by state location. Energy use in 1980 of the properties surveyed ranged from 23.7 Kwh/sq ft in Florida to 43.4 Kwh/sq ft in Ohio. The average use of electrcity for the 53 properties was 31.1 Kwh/sq ft.

Table 7 lists the 53 all-electric properties by size and indicates the following requirements for electricity.

Size	Kwh/Sq Ft/Yr 1979 vs 1980	
Up to 75 Rooms (18 properties)	24.5	26.2
76 to 150 Rooms (29 properties)	34.0	34.3
151 to 350 Rooms (16 properties)	30.6	28.5
Average - 53 properties	31.4	31.1

Table 6

All-Electric Hotels/Motels
Energy Use by State Location - 1980

Location and No. of Properties	Total Sq Ft	Btu/Sq Ft/Yr	Kwh Per Sq Ft
South Carolina (8 properties)	172,660	92,494	27.1
North Carolina (8 properties)	225,428	101,700	29.8
Virginia (7 properties)	131,928	85,820	25.2
Georgia (6 properties)	173,280	104,432	30.6
Florida (5 properties)	105,976	80,764	23.7
Kentucky (4 properties)	166,336	109,399	32.1
Tennessee (3 properties)	95,520	129,261	37.9
Louisiana (2 properties)	117,502	118,994	34.9
Dist of Columbia (2 properties)	189,713	110,530	32.4
Ohio (2 properties)	112,608	148,142	43.4
New York (1 property)	160,826	97,173	28.5
Mississippi (1 property)	29,280	88,354	25.9
Indiana (1 property)	29,280	147,848	43.3
Kansas (1 property)	45,598	102,285	30.0
Connecticut (1 property)	205,703	99,901	29.3
Idaho (1 property)	153,315	97,636	28.6
Total - 53 Properties	2,114,953	105,968	31.1

Table 7

Energy Use
All-Electric Hotels/Motels
(Included in 1980 Energy Use Survey)

	Total Sq Ft	Electricity (MM Btu) 1979 vs 1980		Btu/Sq Ft/Yr 1979 vs 1980		Kwh/Sq Ft/Yr 1979 vs 1980	
Up to 75 Rooms (18 properties)	299,820	25,028	26,795	83,476	89,370	24.5	26.2
76 to 150 Rooms (29 properties)	1,054,056	122,097	123,295	115,835	116,972	34.0	34.3
151 to 350 Rooms (6 properties)	761,077	79,402	74,027	104,328	97,266	30.6	28.5
Total/Average (53 properties)	2,114,953	226,527	224,117	107,107	105,968	31.4	31.1

ANALYSIS OF THE ENERGY REQUIREMENTS OF 323 HOTELS AND MOTELS...

By Geographical Location

Appendix C lists the 1980 versus the 1979 energy use data of 323 individual hotels and motels by geographical (state) location. Appendix C includes both hotels/motels with conventional energy systems (270 properties) and all-electric systems (53 properties). These data serve as the source for the following analyses based on location of hotel/motel properties.

For the purpose of this survey and analysis, six major geographical areas were used. The six areas include the following states.

Northeastern States

Main	New York
New Hampshire	New Jersey
Vermont	Pennsylvania
Massachusetts	Maryland
Connecticut	Delaware
Rhode Island	District of Columbia

Midwestern States

Ohio	Iowa
Indiana	Kansas
Illinois	North Dakota
Wisconsin	South Dakota
Michigan	Nebraska
Minnesota	Missouri

Southeastern States

Kentucky	South Carolina
West Virginia	Mississippi
Virginia	Alabama
Tennessee	Georgia
North Carolina	Florida

South Central States

Oklahoma	Louisiana
Arkansas	Texas

Rocky Mountain States

Montana	Arizona
Wyoming	Nevada
Colorado	Utah
New Mexico	Idaho

Pacific Coast States

California	Hawaii
Oregon	Alaska
Washington	

Annual Energy Requirements by Geographical Area

Table 8 is a summary of energy use in 1980 of 323 properties by regional location. The Midwest with 159,591 Btu/sq ft had the highest annual energy use, while the 105,047 Btu/sq ft average for the Pacific Coast locations was the lowest.

Region	Btu/sq ft/yr
Northeast (24 properties)	143,956
Southeast (114 properties)	127,802
Midwest (63 properties)	159,591
South Central (56 properties)	147,683
Rocky Mountain (25 properties)	131,412
Pacific Coast (41 properties)	105,047
Average - 323 properties	137,801

Table 8 also indicates that percentage-wise, on the basis of regional location, the distribution of the 323 properties is as follows:

Region	% of Total Properties	% of Total Sq Ft	% of Total Energy Use
Northeast	7.4	14.4	15.0
Southeast	35.3	22.2	20.6
Midwest	19.5	24.8	28.8
South Central	17.4	13.3	14.2
Rocky Mountain	7.7	11.0	10.5
Pacific Coast	12.7	14.3	10.9

Use of Electricity by Region

Table 9 shows that the annual use of electricity of the 323 properties ranged from 14.6 Kwh/sq ft in the Pacific Coast Region to 25.3 Kwh/sq ft in the South Central Region. The average for all properties was 18.6 Kwh/sq ft (63,589 Btu/sq ft). (The high use of electricity in the Southeast and South Central United States reflects the above normal summer temperatures during 1980.)

Region	Use of Electricity	
	Btu/sq ft	Kwh/sq ft
Northeast (24 properties)	57,646	16.9
Southeast (114 properties)	80,806	23.7
Midwest (63 properties)	59,077	17.3
South Central (56 properties)	86,466	25.3
Rocky Mountain (25 properties)	69,031	20.2
Pacific Coast (41 properties)	49,920	14.6
Average - 323 properties	63,589	18.6

Use of Fossil Fuels by Region

Table 10 indicates that the region with the highest annual requirement for fossil fuels was the Midwest with 100,514 Btu/sq ft, followed by the Northeast with 86,310 Btu/sq ft. The Southeast Region had the lowest requirement - 46,996 Btu/sq ft. The average for all properties was 74,212 Btu/sq ft.

Region	Use of Fossil Fuels	
	Btu/sq ft	Equivalent Therms Natural Gas/Sq Ft
Northeast (24 properties)	86,310	0.86
Southeast (114 properties)	46,996	0.47
Midwest (63 properties)	100,514	1.01
South Central (56 properties)	61,217	0.61
Rocky Mountain (25 properties)	62,381	0.62
Pacific Coast (41 properties)	55,127	0.55
Average - 323 properties	74,212	0.74

Energy Sources

In Table 11, the Southeast is shown to have the highest annual requirement for electricity - (63.2%) and the lowest requirement for fossil fuels (36.8%). The Midwest properties had the lowest annual requirement for electricity (37.0%) and the highest requirement for fossil fuels (63.0%). The average for all properties was 46.1% electricity and 53.9% fossil fuels.

Table 8

Summary of
Energy Use by Geographic Area
1980

323 Hotels/Motels

	Total Sq Ft	Total Energy (MM Btu) Elec	Fossil Fuel	Total	Btu/Sq Ft/Yr Elec	Fossil Fuel	Total
Northeast (24 properties)	5,801,351	334,426	500,714	835,140	57,646	86,310	143,956
Southeast (114 properties)	8,939,017	722,327	420,099	1,142,426	80,806	46,996	127,802
Midwest (63 properties)	10,029,949	592,538	1,008,152	1,600,690	59,077	100,514	159,591
South Central (56 properties)	5,352,041	462,770	327,634	790,404	86,466	61,217	147,683
Rocky Mountain (25 properties)	4,425,541	305,498	276,073	581,571	69,031	62,381	131,412
Pacific Coast (41 properties)	5,785,014	288,788	318,909	607,697	49,920	55,127	105,047
All Regions (323 Properties)	40,332,913	2,706,347	2,851,581	5,557,928	63,589	74,212	137,801

Table 9

Use of Electricity - 1980
323 Hotels/Motels

By Geographical Area

	Total Sq Ft	Btu's Electricity (Millions)	Btu's Sq Ft	Kwh Sq Ft
Northeast (24 properties)	5,801,351	334,426	57,646	16.9
Southeast (114 properties)	8,939,017	722,327	80,806	23.7
Midwest (63 properties)	10,029,949	592,538	59,077	17.3
South Central (56 properties)	5,352,041	462,770	86,466	25.3
Rocky Mountain (25 properties)	4,425,541	305,498	69,031	20.2
Pacific Coast (41 properties)	5,785,014	288,788	49,920	14.6
323 Properties	40,332,913	2,706,347	63,589	18.6

Table 10

Use of Fossil Fuels - 1980
323 Hotels/Motels

By Geographical Area

	Total Sq Ft	Btu's Fossil Fuels (Millions)	Btu's Sq Ft	Therms[1] Sq Ft
Northeast (24 properties)	5,801,351	500,714	86,310	0.86
Southeast (114 properties)	8,939,017	420,099	46,996	0.47
Midwest (63 properties)	10,029,949	1,008,152	100,514	1.01
South Central (56 properties)	5,352,041	327,634	61,217	0.61
Rocky Mountain (25 properties)	4,425,541	276,073	62,381	0.62
Pacific Coast (41 properties)	5,785,014	318,909	55,127	0.55
323 Properties	40,332,913	2,851,581	74,212	0.74

Note:
1 Equivalent therms (100,000 Btu) of natural gas

Table 11

Sources of Energy (1980)
323 Hotels/Motels

By Geographical Area

	Electricity		Fossil Fuels	
	Btu's (Millions)	% of Annual Use	Btu's (Millions)	% of Annual Use
Northeast (24 properties)	334,426	40.0	500,714	60.0
Southeast (114 properties)	722,327	63.2	420,099	36.8
Midwest (63 properties)	592,538	37.0	1,008,152	63.0
South Central (56 properties)	462,770	58.5	327,634	41.5
Rocky Mountain (25 properties)	305,498	52.5	276,073	47.5
Pacific Coast (41 properties)	288,788	47.5	318,909	52.5
323 Properties	2,706,347	46.1	2,851,581	53.9

APPENDIX A

Annual Energy Requirements
of
270 Hotels/Motels with Conventional Energy Systems
1980 versus 1979

By Size of Property

Appendix A-1: Up to 150 Rooms (107 properties)

Appendix A-2: 151 to 200 Rooms (59 properties)

Appendix A-3: 201 to 300 Rooms (67 properties)

Appendix A-4: 301 to 500 Rooms (21 properties)

Appendix A-5: Over 500 Rooms (16 properties)

Appendix A-1

ANNUAL ENERGY REQUIREMENTS - 1980
With Comparison to 1979 Energy Use

107 Selected Properties
Up to 150 Rooms

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft)		Electricity (Btu/Sq Ft)		Fossil Fuel (Btu/Sq Ft)		Total Btu/Sq Ft	
		1979	1980	1979	1980	1979	1980	1979	1980
Arizona	67,924	13.04	11.57	44,511	39,458	35,973	34,112	80,483	73,597
Arizona	64,695	27.60	26.74	94,198	91,244	41,668	48,612	135,865	139,856
Arizona	57,387	17.67	18.42	60,282	62,854	116,402	70,626	176,685	133,480
Arizona	57,714	20.36	17.37	69,465	59,275	94,776	98,277	164,240	157,552
Arizona	40,365	28.73	17.99	77,567	61,389	55,840	43,379	133,407	104,768
Arizona	38,123	19.12	14.79	65,239	50,468	58,232	49,602	123,471	100,070
Arizona	71,426	25.10	22.22	85,664	75,813	72,720	42,029	158,384	117,842
Arkansas	48,904	27.53	26.43	93,964	90,218	79,441	75,453	173,404	165,671
Arkansas	41,860	19.52	17.54	66,602	59,842	40,981	32,943	107,583	92,785
California	28,960	17.00	14.24	58,022	48,584	39,892	44,195	97,915	89,779
California	29,800	14.62	12.13	49,916	41,376	29,748	30,503	79,664	71,879
California	29,797	10.30	9.77	35,397	32,788	33,345	33,023	68,743	65,811
California	30,570	9.80	9.34	33,520	31,861	51,786	56,133	85,306	87,994
California	31,147	19.31	17.54	65,912	59,845	24,817	13,260	90,725	73,105
California	45,620	10.02	9.40	34,217	32,223	37,154	36,146	71,371	68,369
California	46,986	12.07	10.18	41,181	34,775	47,618	45,482	88,799	80,237
California	42,931	12.65	10.34	43,170	35,289	53,800	52,200	96,970	87,489
California	39,405	11.38	12.21	38,856	41,644	31,077	32,407	69,933	74,051
California	48,821	11.17	9.61	38,139	32,793	39,139	36,542	77,273	69,335
California	70,883	14.32	13.56	48,887	46,273	57,953	50,464	106,840	96,737

Appendix A-1 (Cont'd)
(Up to 150 Rooms)

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft) 1979	Electricity (Kwh/Sq Ft) 1980	Electricity (Btu/Sq Ft) 1979	Electricity (Btu/Sq Ft) 1980	Fossil Fuel (Btu/Sq Ft) 1979	Fossil Fuel (Btu/Sq Ft) 1980	Total Btu/Sq Ft 1979	Total Btu/Sq Ft 1980
California	63,898	19.83	17.77	67,687	60,644	46,976	46,229	114,663	106,873
California	66,665	17.14	15.09	58,489	51,481	41,161	41,476	99,650	92,957
California	55,684	13.44	12.40	45,874	42,288	42,626	42,163	88,500	84,451
California	59,732	17.65	14.51	60,240	49,538	48,064	48,282	108,304	97,820
California	76,227	12.95	11.24	44,202	38,372	40,145	40,196	84,348	78,568
Colorado	30,570	18.80	19.23	64,198	65,620	71,445	72,097	135,644	137,717
Colorado	47,512	21.00	18.97	71,670	64,742	61,593	59,122	133,263	123,864
Colorado	46,704	21.98	18.93	75,013	64,577	52,826	57,575	127,839	122,152
Colorado	61,762	14.42	10.54	49,206	35,960	161,138	136,654	210,344	172,614
Colorado	41,860	21.11	20.62	72,037	70,354	73,817	69,708	145,854	140,062
Colorado	48,588	19.01	17.85	64,893	60,920	63,976	62,176	128,868	123,096
Florida	55,448	26.50	25.89	90,433	88,353	41,815	43,248	132,249	131,601
Florida	59,247	23.40	22.33	79,853	76,190	13,926	12,692	93,779	88,882
Florida	51,682	34.15	34.86	116,531	119,345	10,696	8,107	127,226	127,452
Georgia	28,800	22.50	23.98	76,771	81,840	59,132	48,715	135,903	130,555
Georgia	29,760	21.00	21.99	71,640	75,036	62,500	59,523	134,140	134,543
Kentucky	37,928	30.43	31.27	103,838	106,729	88,457	84,054	192,295	190,783
Kentucky	55,151	23.83	23.33	81,326	79,612	64,166	59,829	145,492	139,441
Louisiana	52,699	20.50	18.51	63,170	69,944	43,511	36,813	113,455	99,983
Louisiana	37,749	23.16	20.83	79,053	71,075	58,345	53,272	137,398	124,347
Maryland	54,274	19.38	18.42	66,142	62,866	98,463	113,350	164,605	176,216
Massachusetts	59,516	20.24	21.55	69,080	73,560	100,091	83,641	169,171	157,201
Michigan	77,110	18.60	18.07	63,483	61,678	101,622	99,416	165,105	161,094
Minnesota	69,189	14.32	14.49	48,872	71,456	114,765	110,625	163,637	182,081

Appendix A-1 (Cont'd)
(Up to 150 Rooms)

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft) 1979	Electricity (Kwh/Sq Ft) 1980	Electricity (Btu/Sq Ft) 1979	Electricity (Btu/Sq Ft) 1980	Fossil Fuel (Btu/Sq Ft) 1979	Fossil Fuel (Btu/Sq Ft) 1980	Total Btu/Sq Ft 1979	Total Btu/Sq Ft 1980
Minnesota	61,020	15.30	16.58	52,257	56,572	191,654	175,336	243,911	231,907
Mississippi	37,749	21.15	17.65	72,173	60,240	42,469	60,982	114,643	121,222
Missouri	39,618	22.77	28.71	115,180	97,985	28,057	36,524	143,237	134,510
New Hampshire	103,692	7.22	7.91	24,653	27,002	83,034	86,401	107,656	113,403
New Hampshire	69,088	15.00	15.66	51,184	53,439	59,880	50,457	111,064	103,896
New Mexico	39,618	15.12	12.76	51,593	43,566	42,632	41,193	94,225	84,759
New York	84,484	13.60	14.93	46,408	50,945	68,438	67,740	114,847	118,685
New York	87,130	13.68	12.66	46,678	43,200	85,432	81,567	132,110	124,767
North Carolina	44,780	22.51	22.72	76,812	77,536	129,901	136,713	206,713	214,249
North Carolina	53,050	18.78	18.61	64,085	63,506	139,710	123,808	203,795	187,314
Ohio	54,735	23.29	23.58	79,468	80,460	77,458	68,658	156,926	149,118
Ohio	48,860	24.44	25.42	83,394	86,738	82,022	79,164	165,416	165,902
Ohio	57,200	21.98	29.63	74,995	101,136	46,500	46,748	121,495	147,884
Ohio	61,575	18.75	18.06	63,990	61,632	68,095	71,724	132,086	133,366
Ohio	53,818	11.83	12.85	40,347	43,851	180,209	169,758	220,556	213,609
Ohio	55,262	19.05	19.12	65,026	65,271	136,448	135,627	201,474	200,898
Ohio	86,139	10.46	11.19	35,705	38,194	120,341	115,023	156,047	153,217
Ohio	75,884	22.80	23.07	77,778	78,725	84,934	91,759	162,712	170,484
Oklahoma	38,123	22.78	20.87	77,744	71,216	53,293	48,580	131,037	119,796
Oregon	92,064	12.23	10.95	41,743	37,376	110,542	103,602	152,285	140,978
Pennsylvania	72,713	20.93	21.01	71,423	71,719	67,223	61,118	138,646	132,837
South Carolina	51,200	36.20	38.50	123,498	131,367	44,639	42,578	168,137	173,945
South Carolina	88,321	19.55	19.44	66,709	66,349	41,486	40,432	108,195	106,781
Tennessee	62,950	19.48	22.10	66,473	75,425	54,805	60,635	121,278	136,060

Appendix A-1 (Cont'd)
(Up to 150 Rooms)

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft) 1979	Electricity (Kwh/Sq Ft) 1980	Electricity (Btu/Sq Ft) 1979	Electricity (Btu/Sq Ft) 1980	Fossil Fuel (Btu/Sq Ft) 1979	Fossil Fuel (Btu/Sq Ft) 1980	Total Btu/Sq Ft 1979	Total Btu/Sq Ft 1980
Tennessee	41,819	23.24	23.26	79,303	79,366	40,601	44,932	119,904	124,298
Tennessee	55,887	25.01	24.82	84,764	84,707	88,952	79,750	173,716	164,457
Tennessee	68,612	20.58	17.78	70,252	60,689	44,708	39,002	114,960	99,691
Tennessee	57,354	19.43	19.44	66,307	66,342	150,190	127,873	216,497	194,215
Tennessee	53,811	19.11	19.56	65,214	66,752	135,613	137,109	200,828	203,861
Tennessee	55,162	20.68	19.54	70,580	66,658	137,465	108,360	208,045	175,048
Texas	18,688	15.31	13.96	52,268	47,624	79,371	69,617	131,639	117,241
Texas	28,779	15.90	15.06	54,275	51,392	79,043	98,405	133,318	149,797
Texas	28,031	16.52	15.22	56,378	51,978	60,254	56,616	116,632	108,594
Texas	37,375	24.16	19.92	82,436	67,987	49,530	53,913	131,966	121,900
Texas	37,375	17.90	17.77	61,080	60,641	59,911	65,807	120,991	126,448
Texas	37,375	19.55	20.19	66,730	68,896	51,941	46,475	118,671	115,371
Texas	53,804	25.94	26.47	88,515	90,346	54,271	56,836	142,786	147,182
Texas	38,123	19.86	17.73	67,767	60,515	56,716	43,359	124,483	103,874
Texas	38,123	20.74	20.05	70,773	68,436	51,813	44,645	122,587	113,081
Texas	38,870	20.13	18.19	68,700	76,434	48,119	44,765	116,819	121,199
Texas	38,870	12.17	15.24	41,540	51,994	41,569	37,921	83,109	89,915
Texas	38,870	13.92	16.85	47,524	57,499	39,680	37,201	87,204	94,700
Texas	39,618	29.34	30.40	100,128	103,741	15,826	14,412	115,954	118,153
Texas	41,113	21.06	18.27	71,801	62,340	56,210	48,306	128,091	110,646
Texas	41,860	22.81	20.90	77,851	71,333	55,972	46,823	133,823	118,156
Texas	91,602	19.15	21.11	65,348	72,062	57,562	54,977	122,910	127,039
Texas	45,598	16.71	16.08	57,045	54,871	38,666	37,414	95,711	92,285
Texas	38,123	22.65	19.07	77,276	65,075	39,750	39,219	117,026	104,294

Appendix A-1 (Cont'd)
(Up to 150 Rooms)

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft) 1979	Electricity (Kwh/Sq Ft) 1980	Electricity (Btu/Sq Ft) 1979	Electricity (Btu/Sq Ft) 1980	Fossil Fuel (Btu/Sq Ft) 1979	Fossil Fuel (Btu/Sq Ft) 1980	Total Btu/Sq Ft 1979	Total Btu/Sq Ft 1980
Texas	37,001	19.42	17.53	66,254	59,836	39,212	45,756	105,466	105,592
Texas	45,598	19.29	17.50	65,850	59,712	41,214	37,156	107,064	96,868
Texas	47,466	19.91	17.87	67,944	60,991	20,922	19,003	88,866	79,994
Texas	47,840	15.10	14.33	51,540	48,913	75,474	66,462	127,014	115,385
Texas	48,214	16.12	17.79	55,007	60,709	30,509	51,271	85,517	111,980
Texas	48,214	22.58	17.41	77,073	59,423	67,905	62,927	144,978	122,350
Virginia	62,584	30.58	31.39	104,332	108,079	36	639	104,369	108,718
Washington	30,545	22.46	21.00	76,641	71,665	148,306	139,690	224,947	211,355
W. Virginia	47,860	21.68	24.03	73,984	81,989	71,126	64,208	145,110	146,197
W. Virginia	48,860	29.88	32.70	101,955	111,597	81,897	74,506	183,852	186,103
W. Virginia	56,201	20.14	20.75	68,732	70,817	61,548	60,871	130,280	131,688
W. Virginia	59,720	15.02	15.69	51,240	53,567	98,975	92,682	150,215	146,249
W. Virginia	65,924	22.62	21.31	77,171	72,735	130,029	113,949	207,200	186,684
Wisconsin	77,000	21.00	22.90	71,784	85,909	68,906	49,442	140,690	135,351
Wisconsin	62,791	17.30	16.08	59,055	54,870	82,829	81,822	141,883	136,992

Recap: 107 properties - Up to 150 Rooms

	1979	versus	1980
Total Square Feet	5,542,318		5,570,811
Number of Guest Rooms	11,874		12,156
Btu's/Sq Ft/Yr	134,658		130,193

Appendix A-2

ANNUAL ENERGY REQUIREMENTS - 1980
With Comparison to 1979 Energy Use

59 Selected Properties
151 - 200 Rooms

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft) 1979	Electricity (Kwh/Sq Ft) 1980	Electricity (Btu/Sq Ft) 1979	Electricity (Btu/Sq Ft) 1980	Fossil Fuel (Btu/Sq Ft) 1979	Fossil Fuel (Btu/Sq Ft) 1980	Total Btu/Sq Ft 1979	Total Btu/Sq Ft 1980
Alabama	84,214	31.39	29.12	107,108	99,377	43,205	36,764	150,313	136,141
Alabama	72,745	27.13	27.93	92,564	95,305	73,105	72,761	165,669	168,066
Arizona	75,353	20.95	19.81	71,497	67,615	77,766	100,832	149,263	168,447
California	143,081	20.05	15.20	68,409	51,887	58,122	47,741	126,531	99,628
California	101,006	18.30	18.23	62,446	62,220	148,473	111,978	210,919	174,198
California	77,309	17.86	12.61	60,959	43,835	63,043	83,977	144,002	107,012
California	95,646	11.17	9.46	38,114	32,286	50,701	49,077	88,815	81,363
Colorado	94,846	13.01	13.05	44,378	44,524	110,887	100,036	155,265	144,560
Colorado	183,000	8.10	7.78	27,646	26,546	88,863	80,842	116,509	107,388
Florida	66,872	28.06	27.37	95,755	93,402	61,198	56,691	156,953	150,093
Florida	77,706	32.68	38.43	111,537	110,661	10,748	11,016	122,285	121,677
Georgia	136,526	19.34	17.14	65,990	58,502	48,851	42,197	114,841	100,899
Illinois	110,890	22.00	19.50	75,064	66,560	112,858	93,359	187,922	159,919
Indiana	80,347	19.78	19.77	67,504	67,470	92,671	81,994	160,175	149,464
Indiana	83,216	13.78	13.51	47,033	46,109	117,143	120,085	164,176	166,194
Kentucky	66,000	15.26	15.45	52,085	52,727	122,227	114,849	174,312	167,576
Kentucky	177,949	19.10	22.14	65,549	75,549	55,531	30,144	121,080	105,693
Louisiana	104,013	30.76	25.02	104,965	85,374	77,098	54,493	182,062	139,867
Louisiana	100,439	30.75	29.82	104,904	101,745	61,251	49,138	166,155	150,883
Michigan	88,374	19.49	18.18	66,523	62,032	87,460	98,648	153,983	140,675

Appendix A-2 (Cont'd)
151 - 200 Rooms

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft) 1979	Electricity (Kwh/Sq Ft) 1980	Electricity (Btu/Sq Ft) 1979	Electricity (Btu/Sq Ft) 1980	Fossil Fuel (Btu/Sq Ft) 1979	Fossil Fuel (Btu/Sq Ft) 1980	Total Btu/Sq Ft 1979	Total Btu/Sq Ft 1980
Michigan	85,438	16.02	16.72	54,660	57,070	92,933	108,278	147,592	165,348
Michigan	59,486	19.58	27.05	66,811	92,307	141,721	200,098	208,531	292,405
Minnesota	84,143	20.37	20.29	69,519	69,263	68,455	54,550	137,974	123,813
Minnesota	82,386	9.38	9.50	32,018	32,453	134,997	39,027	167,014	71,480
Minnesota	104,119	24.60	22.96	83,941	81,570	104,436	96,572	188,377	178,142
Minnesota	107,574	11.58	10.85	39,520	37,020	105,638	94,582	145,158	131,602
Mississippi	84,250	20.71	22.34	70,662	67,217	82,994	74,242	153,656	141,459
Missouri	94,780	15.67	19.13	53,467	65,299	69,852	81,546	123,319	146,845
Nevada	66,357	13.92	12.38	47,511	42,266	121,562	101,487	169,073	143,753
New York	80,998	21.34	20.84	72,814	71,113	45,696	37,605	118,510	108,718
New York	74,596	11.10	10.72	37,878	36,597	134,114	117,915	171,992	154,512
New York	83,871	27.96	27.51	95,419	93,882	38,052	37,737	133,471	131,619
North Carolina	84,561	40.37	34.33	137,745	117,146	40,882	40,220	178,627	157,366
Ohio	74,238	25.40	24.54	86,713	83,744	47,979	57,060	134,692	140,804
Ohio	88,838	22.32	22.46	76,189	76,656	63,232	54,931	139,421	131,587
Oklahoma	86,314	24.54	24.03	83,756	82,003	74,414	69,224	158,170	151,227
South Carolina	58,266	19.25	20.20	65,697	68,942	112,879	128,343	178,576	197,285
South Carolina	88,789	27.44	28.52	93,642	97,309	44,733	30,871	138,375	128,180
South Carolina	118,079	15.37	17.86	52,452	60,962	67,819	68,764	120,271	129,726
Tennessee	71,577	25.32	22.78	86,395	77,734	125,403	95,743	211,798	173,477
Tennessee	71,978	25.48	26.55	86,938	90,611	72,233	67,590	159,171	158,201
Tennessee	101,606	17.62	16.20	60,123	55,284	87,998	74,160	148,111	129,444
Tennessee	90,838	21.68	21.56	73,966	73,570	59,980	58,423	133,946	131,993
Tennessee	77,406	29.03	29.32	99,059	100,050	48,603	46,836	147,663	146,886

Appendix A-2 (Cont'd)
151 - 200 Rooms

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft) 1979	Electricity (Kwh/Sq Ft) 1980	Electricity (Btu/Sq Ft) 1979	Electricity (Btu/Sq Ft) 1980	Fossil Fuel (Btu/Sq Ft) 1979	Fossil Fuel (Btu/Sq Ft) 1980	Total Btu/Sq Ft 1979	Total Btu/Sq Ft 1980
Texas	62,707	24.88	25.36	84,899	86,577	68,342	54,475	153,241	142,052
Texas	62,790	34.20	20.98	116,718	71,607	14,032	24,189	130,750	95,796
Texas	90,604	21.34	20.19	72,801	68,926	64,379	64,467	137,180	133,393
Texas	59,897	40.76	42.03	139,067	143,413	46,046	40,553	185,113	183,966
Texas	73,907	19.63	21.12	66,978	72,077	100,597	89,463	167,575	161,540
Texas	93,572	13.99	15.66	47,753	53,455	41,893	52,345	89,646	105,800
Texas	78,412	20.08	20.48	68,534	69,892	78,903	72,841	147,438	142,733
Texas	74,750	22.65	24.32	77,311	82,999	71,747	19,061	149,058	102,060
Texas	113,282	16.48	17.54	56,233	59,859	53,918	58,632	110,152	118,491
Texas	69,082	19.08	20.12	65,128	68,670	105,646	83,158	170,774	151,828
Utah	80,649	14.23	12.66	48,541	43,224	148,360	155,451	196,903	198,676
Virginia	65,032	21.72	22.61	74,119	77,177	89,187	88,957	163,306	166,134
West Virginia	77,377	20.92	20.58	71,395	70,245	55,354	52,485	126,749	122,730
Wisconsin	115,887	9.45	9.16	32,240	31,142	86,766	82,218	119,006	113,360
Wisconsin	134,601	16.89	19.32	57,651	65,928	93,369	130,007	151,020	195,935

Recap: 59 properties - 151 to 200 Rooms

	1979	versus	1980
Total Square Feet	5,195,894		5,293,069
Number of Guest Rooms	10,319		10,427
Btu/Sq Ft/Yr	146,501		139,609

Appendix A-3

ANNUAL ENERGY REQUIREMENTS - 1980
With Comparison to 1979 Energy Use

67 Selected Properties
201 - 300 Rooms

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft)		Electricity (Btu/Sq Ft)		Fossil Fuel (Btu/Sq Ft)		Total Btu/Sq Ft	
		1979	1980	1979	1980	1979	1980	1979	1980
Alabama	87,058	20.57	22.29	70,186	76,064	56,135	57,984	126,321	134,048
Alabama	130,208	18.47	18.10	63,037	61,770	53,386	54,168	116,423	115,938
Alabama	101,157	20.68	21.65	70,583	73,895	41,480	40,590	112,063	114,485
Alaska	137,104	16.70	16.55	56,960	56,505	89,542	98,647	146,502	155,152
Arkansas	111,997	23.78	23.44	81,140	80,001	79,592	67,717	157,732	147,718
Arkansas	148,003	17.78	18.89	60,677	64,458	52,039	47,188	112,716	111,646
California	109,325	14.80	13.70	50,500	46,778	37,856	37,247	88,356	84,025
California	83,959	17.20	15.23	58,715	51,990	66,238	69,617	124,953	121,607
California	118,792	18.50	16.81	63,201	57,361	64,345	61,032	127,546	118,393
California	104,280	16.75	15.59	57,184	53,212	46,053	45,791	103,237	99,003
California	144,716	26.20	27.35	89,404	93,321	59,972	60,788	149,377	154,109
California	152,060	15.59	15.16	53,206	51,730	59,903	63,461	113,109	115,191
Florida	119,548	30.25	32.16	103,238	109,755	54,122	52,147	157,360	161,902
Florida	107,709	30.77	32.29	104,993	110,188	12,949	39,540	117,942	149,728
Florida	129,364	28.12	22.45	95,954	76,636	68,335	56,940	164,289	133,576
Florida	145,400	19.15	23.19	65,365	79,153	56,703	69,352	122,069	148,508
Florida	105,280	19.86	21.33	67,764	72,806	39,849	50,551	107,614	123,351
Florida	148,592	28.00	27.35	95,537	93,336	37,670	36,536	133,207	129,872
Florida	107,291	22.79	22.28	77,777	76,036	54,265	54,581	132,041	130,617
Hawaii	90,318	33.24	32.26	113,423	110,089	42,703	31,101	156,126	141,190

Appendix A-3 (Cont'd)
201 - 300 Rooms

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft) 1979	Electricity (Kwh/Sq Ft) 1980	Electricity (Btu/Sq Ft) 1979	Electricity (Btu/Sq Ft) 1980	Fossil Fuel (Btu/Sq Ft) 1979	Fossil Fuel (Btu/Sq Ft) 1980	Total Btu/Sq Ft 1979	Total Btu/Sq Ft 1980
Illinois	103,628	27.91	27.99	95,244	95,524	77,074	82,497	172,318	178,021
Illinois	134,269	23.76	22.46	81,073	76,644	80,324	72,697	161,396	149,341
Illinois	146,701	21.01	18.88	71,691	64,487	103,730	81,547	175,422	145,984
Illinois	121,223	22.51	20.45	76,817	69,780	67,961	64,939	144,778	134,719
Illinois	107,313	17.13	17.11	58,452	58,407	176,874	152,966	235,326	211,373
Indiana	129,117	18.13	17.71	61,891	60,456	107,362	100,321	169,253	160,777
Indiana	158,834	24.79	21.20	84,595	72,345	82,342	73,587	167,437	145,932
Louisiana	77,884	28.50	29.04	97,255	99,095	53,564	52,117	150,820	151,212
Louisiana	127,990	27.42	27.14	93,589	92,632	56,707	53,934	150,297	146,566
Maryland	113,043	12.64	19.47	43,132	66,453	96,487	114,558	139,619	181,011
Massachusetts	160,885	21.66	20.57	73,905	70,202	75,195	74,398	149,100	144,600
Michigan	114,813	20.58	20.54	70,219	70,095	95,241	96,113	165,460	166,209
Michigan	123,985	16.51	17.13	56,341	58,451	66,557	65,507	122,898	123,958
Mississippi	93,965	33.15	31.05	113,131	105,944	67,377	54,275	180,508	160,219
Mississippi	118,200	23.11	24.80	78,870	84,645	82,290	75,034	181,160	159,679
Missouri	124,410	12.93	13.13	44,122	44,819	75,042	71,964	119,164	116,783
Missouri	207,934	16.58	14.86	56,575	50,717	92,183	74,460	148,758	125,179
Missouri	261,718	18.16	16.79	61,986	57,295	90,839	66,648	152,825	123,943
Missouri	90,022	17.00	16.08	58,055	54,876	121,870	164,030	179,925	158,906
Missouri	90,964	14.78	13.88	50,457	47,392	157,897	126,478	208,353	173,870
Nevada	95,689	20.72	17.23	70,715	58,806	34,408	35,886	105,123	94,692
Nevada	152,763	16.62	14.00	56,735	47,780	57,972	54,064	114,707	101,847
New Mexico	157,686	15.26	15.02	52,093	51,273	55,145	53,593	107,238	104,866
New York	113,170	30.80	29.23	105,118	99,744	13,988	17,946	119,106	117,690

Appendix A-3 (Cont'd)
201 - 300 Rooms

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft) 1979	Electricity (Kwh/Sq Ft) 1980	Electricity (Btu/Sq Ft) 1979	Electricity (Btu/Sq Ft) 1980	Fossil Fuel (Btu/Sq Ft) 1979	Fossil Fuel (Btu/Sq Ft) 1980	Total Btu/Sq Ft 1979	Total Btu/Sq Ft 1980
New York	124,483	17.55	17.91	59,911	61,109	75,202	64,707	135,113	125,816
Ohio	109,362	19.31	18.93	65,915	64,620	105,276	99,194	171,191	163,814
Ohio	120,668	16.36	15.47	55,850	52,781	94,098	80,593	149,948	135,374
Ohio	126,902	14.80	14.72	50,504	50,212	102,153	93,040	152,657	143,252
Ohio	95,278	22.02	23.33	75,139	79,620	64,317	62,868	139,456	142,488
Ohio	144,157	17.20	15.23	58,717	51,978	50,188	59,206	108,905	111,184
Oklahoma	150,375	24.68	24.73	84,223	84,382	3,180	2,847	87,403	87,229
Pennsylvania	156,211	10.87	11.97	37,095	40,833	98,316	94,983	135,411	135,816
South Carolina	83,268	28.55	28.80	97,416	98,277	66,232	67,225	163,648	165,502
Tennessee	92,772	18.17	20.84	62,001	71,120	75,389	69,213	137,390	140,333
Tennessee	84,557	24.43	25.68	83,358	87,633	71,195	72,366	154,552	159,999
Tennessee	95,738	24.90	26.66	84,992	90,977	61,950	57,658	146,942	148,635
Tennessee	121,559	15.29	16.19	52,194	55,268	53,877	52,153	106,072	107,421
Tennessee	121,400	13.45	14.86	45,905	50,733	50,353	46,433	96,258	97,166
Tennessee	92,750	26.76	27.40	91,316	93,509	36,301	30,351	127,617	123,860
Tennessee	122,588	19.44	19.67	66,332	67,119	61,967	44,792	128,299	111,911
Tennessee	138,981	22.88	22.62	78,084	77,208	40,147	37,786	118,231	114,994
Tennessee	148,842	23.88	24.07	81,483	82,138	78,555	73,544	160,038	155,682
Texas	88,186	23.97	23.81	81,800	81,249	76,610	71,156	158,410	152,405
Texas	132,168	15.93	15.71	54,385	53,606	53,591	47,712	107,976	101,318
Texas	171,205	16.90	16.98	57,636	57,946	88,742	80,794	146,378	138,740
Washington	124,175	12.71	11.45	43,390	39,090	88,544	76,054	131,935	115,144
West Virginia	161,144	19.00	19.06	64,855	65,035	155,431	178,970	220,286	244,005

Note: See next page for recap of 201-300 room category energy use.

Recap: 67 properties - 201 to 300 Rooms

	1979	versus	1980
Total Square Feet	8,076,376		8,314,776
Number of Guest Rooms	15,865		16,145
Btu/Sq Ft/Yr	140,362		131,948

Appendix A-4

ANNUAL ENERGY REQUIREMENTS - 1980
With Comparison to 1979 Energy Use

21 Selected Properties
301 to 500 Rooms

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft)		Electricity (Btu/Sq Ft)		Fossil Fuel (Btu/Sq Ft)		Total Btu/Sq Ft	
		1979	1980	1979	1980	1979	1980	1979	1980
California	195,058	12.39	8.39	42,778	28,656	61,912	42,431	104,690	71,087
California	256,608	9.86	8.53	33,671	29,074	46,002	48,506	79,673	77,581
California	300,434	10.39	11.21	35,481	38,254	67,207	70,711	102,688	108,965
California	192,812	19.91	17.91	67,953	61,137	17,813	17,494	85,766	78,631
Florida	133,160	22.59	21.48	77,084	73,265	57,609	50,982	134,692	124,247
Flordia	188,697	34.33	29.25	117,144	99,805	49,422	40,128	166,566	139,933
Hawaii	151,341	15.41	15.10	52,576	51,513	715	816	53,231	52,329
Illinois	183,221	45.44	30.88	155,046	105,386	18,809	21,865	173,855	119,331
Illinois	420,042	22.77	20.17	77,706	68,843	22,312	24,945	100,018	93,788
Minnesota	265,000	14.77	14.89	50,399	50,808	172,814	146,332	223,213	197,140
Minnesota	537,318	22.28	17.61	76,049	60,079	127,730	104,873	203,779	164,952
Minnesota	433,000	11.09	11.10	37,842	37,902	61,473	54,673	99,315	92,575
New York	322,000	18.36	18.77	62,645	64,065	11,300	69,364	73,945	133,429
Ohio	165,974	24.18	24.66	82,518	84,150	77,184	78,888	159,702	163,038
Ohio	317,000	17.01	17.10	58,045	58,356	129,429	115,710	187,474	174,066
Ohio	263,400	19.44	18.67	66,338	63,736	119,550	116,450	185,888	180,186
Oregon	304,965	16.89	15.90	57,641	54,265	84,431	78,308	142,072	132,573
Pennsylvania	322,295	18.36	18.28	62,640	62,376	54,453	54,517	117,093	116,893
Tennessee	144,547	20.59	22.59	70,274	77,089	61,327	65,577	131,601	142,666
Texas	163,206	20.18	20.78	68,840	70,904	42,389	79,813	111,229	150,717

Appendix A-4 (Cont'd)
301 to 500 Rooms

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft) 1979	Electricity (Kwh/Sq Ft) 1980	Electricity (Btu/Sq Ft) 1979	Electricity (Btu/Sq Ft) 1980	Fossil Fuel (Btu/Sq Ft) 1979	Fossil Fuel (Btu/Sq Ft) 1980	Total Btu/Sq Ft 1979	Total Btu/Sq Ft 1980
Texas	203,855	23.63	24.22	81,333	82,654	75,567	73,061	156,900	155,715

Recap: 21 properties - 301 to 500 Rooms

	1979	versus	1980
Total Square Feet	5,304,743		5,463,909
Number of Guest Rooms	7,948		8,119
Btu/Sq Ft/Yr	138,236		128,696

Appendix A-5

ANNUAL ENERGY REQUIREMENTS - 1980
With Comparison to 1979 Energy Use

16 Selected Properties
Over 500 Rooms

Location (State)	Property Size (Sq Ft)	Electricity (Kwh/Sq Ft)		Electricity (Btu/Sq Ft)		Fossil Fuel (Btu/Sq Ft)		Total Btu/Sq Ft	
		1979	1980	1979	1980	1979	1980	1979	1980
California	257,855	20.23	18.38	69,048	62,736	64,094	54,659	133,142	117,395
California	334,804	12.68	7.62	43,267	26,018	54,071	34,847	97,338	60,865
California	1,186,000	15.42	14.43	52,622	49,247	67,906	60,803	120,528	110,050
Georgia	1,170,600	23.90	24.97	81,679	85,209	39,650	40,873	121,329	126,082
Hawaii	233,626	27.07	25.29	92,376	86,313	51,671	48,539	144,047	134,852
Illinois	314,692	33.57	19.15	114,556	65,358	12,725	28,483	127,281	93,841
Illinois	1,750,000	11.99	11.45	40,938	39,076	144,778	131,567	185,716	170,643
Louisiana	969,699	30.67	33.64	104,655	114,769	63,522	50,437	168,177	165,206
Masachusetts	970,000	14.21	14.20	48,503	48,576	165,823	166,759	214,326	215,335
Minnesota	407,000	13.35	13.21	45,568	45,079	210,501	336,801	256,069	381,880
Nevada	263,274	19.56	18.08	66,751	61,715	50,093	38,955	116,844	100,670
Nevada	2,388,361	23.36	23.24	79,722	79,311	66,484	62,357	146,207	141,668
New York	1,626,000	13.46	13.86	45,957	47,295	93,003	99,255	138,960	146,550
Pennsylvania	566,660	13.27	12.68	45,291	43,268	73,006	56,407	118,297	99,675
Tennessee	543,017	15.19	15.18	51,830	51,814	38,952	40,875	90,782	92,689
Texas	593,807	30.61	33.98	104,442	115,959	142,176	130,488	246,618	246,447

Recap: 16 properties - Over 500 Rooms

	1979	versus	1980
Total Square Feet	13,605,260		13,575,395
Number of Guest Rooms	18,316		18,301
Btu/Sq Ft/Yr	154,224		152,428

APPENDIX B

Annual Energy Requirements
of
53 All-Electric Hotels/Motels
1980 versus 1979

By Size of Property

Appendix B-1: Up to 75 Rooms (18 properties)

Appendix B-2: 76 to 150 Rooms (29 properties)

Appendix B-3: Over 150 Rooms (6 properties)

Appendix B-1

Energy Use
All-Electric Hotels/Motels
(Included in 1980 Energy Use Survey)

Up to 75 Rooms	Sq Ft	Electricity (MM Btu) 1979	Electricity (MM Btu) 1980	Btu/Sq Ft/Yr 1979	Btu/Sq Ft/Yr 1980	Kwh/Sq Ft/Yr 1979	Kwh/Sq Ft/Yr 1980
Florida	17,108	1,186	1,233	69,329	72,072	20.3	21.1
Florida	14,400	1,370	1,614	95,138	112,083	27.9	32.9
Florida	17,108	1,187	1,544	69,434	90,250	20.3	26.5
Georgia	14,400	1,374	1,381	95,416	95,903	28.0	28.1
Kentucky	14,400	2,107	2,161	146,319	150,069	42.9	44.0
North Carolina	17,108	1,275	1,346	74,584	78,677	21.9	23.1
Ohio	17,108	1,671	2,059	97,709	120,353	28.6	35.3
South Carolina	17,108	1,414	1,798	82,656	105,097	24.2	30.8
South Carolina	17,108	1,813	1,710	106,004	99,953	31.1	29.3
South Carolina	17,108	1,167	1,274	68,239	74,468	20.0	21.8
South Carolina	17,108	1,291	1,713	75,513	100,129	22.1	29.3
South Carolina	17,108	1,143	1,207	66,857	70,552	19.6	20.7
Virginia	17,108	1,318	1,378	77,052	80,547	22.6	23.6
Virginia	17,108	1,180	1,064	69,013	62,193	20.2	18.2
Virginia	17,108	1,491	1,240	87,172	72,481	25.5	21.2
Viginia	17,108	1,440	1,275	84,225	74,527	24.7	21.8
Virginia	17,108	1,206	1,352	70,539	79,027	20.7	23.2
Virginia	17,108	1,395	1,446	81,553	84,522	23.9	24.8
Totals/Averages - 18 Properties	299,820	25,028	26,795	83,476	89,370	24.5	26.2

Appendix B-2

Energy Use
All-Electric Hotels/Motels
(Included in 1980 Energy Use Survey)

76-150 Rooms	Sq Ft	Electricity (MM Btu) 1979	Electricity (MM Btu) 1980	Btu/Sq Ft/Yr 1979	Btu/Sq Ft/Yr 1980	Kwh/Sq Ft/Yr 1979	Kwh/Sq Ft/Yr 1980
Dist. of Columbia	65,375	8,051	8,083	123,145	123,636	36.1	36.2
Florida	28,800	3,527	3,906	122,465	135,652	35.9	39.8
Florida	28,560	2,661	2,602	93,172	91,106	27.3	26.7
Georgia	29,280	3,119	2,992	106,523	102,186	31.2	30.0
Georgia	28,800	4,016	3,402	139,444	118,125	40.9	35.0
Georgia	28,800	3,611	3,409	125,382	118,368	36.7	34.7
Georgia	28,800	3,004	3,072	104,305	106,667	30.6	31.3
Indiana	29,280	4,380	4,329	149,590	147,848	43.8	43.3
Kansas	45,598	4,965	4,664	108,886	102,235	31.9	30.1
Kentucky	29,280	4,722	4,942	161,270	168,784	47.3	48.7
Kentucky	48,961	5,100	4,940	104,164	100,897	30.5	29.6
Louisiana	77,884	9,531	9,938	122,374	127,600	35.8	37.4
Louisiana	39,618	4,188	4,044	105,709	102,075	30.9	29.9
Mississippi	29,280	2,923	2,587	99,829	88,354	29.2	25.9
North Carolina	33,600	2,398	2,504	71,369	74,523	20.9	21.8
North Carolina	28,800	3,142	3,357	109,097	116,562	31.9	34.2
North Carolina	28,800	3,080	2,860	106,944	99,305	31.3	29.1
North Carolina	30,000	3,268	3,405	108,933	113,500	30.1	33.3
North Carolina	28,800	2,540	2,741	88,194	95,173	25.8	27.9
North Carolina	28,800	3,181	3,789	110,451	131,562	32.3	38.6
North Carolina	29,520	2,861	2,924	96,917	99,051	28.4	29.0
Ohio	95,500	13,458	14,623	140,932	153,120	41.3	47.3
South Carolina	29,040	2,363	3,082	81,370	106,129	23.8	31.1
South Carolina	29,280	2,647	2,434	90,403	83,128	26.5	24.4

Appendix B-2

Energy Use
All-Electric Hotels/Motels
(Included in 1980 Energy Use Survey)
(Cont'd)

76-150 Rooms (Cont'd)	Sq Ft	Electricity (MM Btu) 1979	Electricity (MM Btu) 1980	Btu/Sq Ft/Yr 1979	Btu/Sq Ft/Yr 1980	Kwh/Sq Ft/Yr 1979	Kwh/Sq Ft/Yr 1980
South Carolina	28,800	2,545	2,752	88,368	95,556	25.9	28.0
Tennessee	30,720	4,389	4,322	142,871	140,690	41.8	41.2
Tennessee	28,800	3,841	3,802	133,368	132,014	39.0	38.7
Tennessee	36,000	4,953	4,223	137,583	117,305	40.3	34.4
Virginia	29,280	3,633	3,567	124,077	121,823	36.4	35.7
Totals/Averages- 29 Properties	1,054,056	122,097	123,295	115,835	116,972	34.0	34.3

Appendix B-3

Energy Use
All-Electric Hotels/Motels
(Included in 1980 Energy Use Survey)

Over 150 Rooms	Sq Ft	Electricity (MM Btu) 1979	Electricity (MM Btu) 1980	Btu/Sq Ft/Yr 1979	Btu/Sq Ft/Yr 1980	Kwh/Sq Ft/Yr 1979	Kwh/Sq Ft/Yr 1980
Connecticut	205,703	19,352	20,550	94,081	99,901	27.5	29.3
District of Columbia	124,338	13,813	12,886	111,092	103,627	32.5	30.4
Georgia	43,200	4,493	3,840	104,005	88,889	30.5	26.1
Idaho	153,315	16,678	14,969	108,786	97,636	31.9	28.6
Kentucky	73,695	7,403	6,154	100,455	83,506	29.4	24.5
New York	160,826	17,663	15,628	109,830	97,173	32.2	28.5
Totals/Averages - 6 Properties	761,077	79,402	74,027	104,328	97,266	30.6	28.5

APPENDIX C

Annual Energy Requirements - 1980
of
323 Hotels/Motels
(Conventional Energy Systems and All-Electric)

By Geographical Location

Appendix C-1: Northeastern U.S. (24 properties)

Appendix C-2: Midwestern U.S. (63 properties)

Appendix C-3: Southeastern U.S. (114 properties)

Appendix C-4: South Central U.S. (56 properties)

Appendix C-5: Rocky Mountain States (25 properties)

Appendix C-6: Pacific Coast States (41 properties)

Appendix C-1

Annual Energy Requirements (1980)
24 Hotels/Motels

Northeastern U.S.

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft
Connecticut	205,703	20,550	-0-	20,550	99,901
Dist. of Columbia	65,375	8,083	-0-	8,083	123,636
Dist. of Columbia	124,338	12,886	-0-	12,886	103,627
Maryland	54,274	3,412	6,152	9,564	176,216
Maryland	113,043	7,512	12,950	20,462	181,011
Massachusetts	59,516	4,378	4,978	9,356	157,201
Massachusetts	160,885	11,294	11,970	23,264	144,600
Massachusetts	970,000	47,118	161,757	208,875	215,335
New Hampshire	103,692	2,800	8,959	11,759	113,403
New Hampshire	69,088	3,692	3,486	7,178	103,896
New York	84,484	4,304	5,723	10,027	118,685
New York	87,130	3,764	7,107	10,871	124,767
New York	80,998	5,760	3,046	8,806	108,718
New York	74,596	2,730	8,796	11,526	154,512
New York	83,871	7,874	3,165	11,039	131,619
New York	113,170	11,288	2,031	13,319	117,690
New York	124,483	7,607	8,055	15,662	125,816
New York	160,826	15,628	-0-	15,628	97,173
New York	322,000	20,629	22,335	42,964	133,429
New York	1,626,000	76,901	161,389	238,290	146,550
Pennsylvania	72,713	5,215	4,444	9,659	132,837
Pennsylvania	156,211	6,379	14,837	21,216	135,816
Pennsylvania	322,295	20,104	17,570	37,674	116,893
Pennsylvania	566,660	24,518	31,964	56,482	99,675
Total/Average-24 Properties	5,801,351	334,426	500,714	835,140	143,956

Appendix C-2

Annual Energy Requirements (1980)
63 Hotels/Motels

Midwestern U.S.

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft
Illinois	103,628	9,899	8,549	18,448	178,021
Illinois	110,890	7,381	10,353	17,734	159,922
Illinois	146,701	9,453	11,963	21,416	145,984
Illinois	134,269	10,291	9,761	20,052	149,341
Illinois	121,223	8,459	7,872	16,331	134,719
Illinois	107,313	6,268	16,415	22,683	211,373
Illinois	183,221	19,309	2,555	21,864	119,331
Illinois	420,042	28,917	10,478	39,395	93,788
Illinois	314,692	20,567	8,964	29,531	93,841
Illinois	1,750,000	68,383	230,243	298,626	170,643
Indiana	158,834	11,491	11,688	23,179	145,932
Indiana	80,347	5,421	6,588	12,009	149,464
Indiana	83,216	3,837	9,993	13,830	166,194
Indiana	129,117	7,806	12,953	20,759	160,777
Indiana	29,280	4,329	-0-	4,329	147,848
Kansas	45,598	4,664	-0-	4,664	102,285
Michigan	77,110	4,756	7,666	12,422	161,094
Michigan	88,374	5,482	6,950	12,432	140,675
Michigan	85,438	4,876	9,251	14,127	165,348
Michigan	59,486	5,491	11,903	17,394	292,405
Michigan	114,813	8,048	11,035	19,083	166,209
Michigan	123,985	7,247	8,122	15,369	123,958
Minnesota	69,189	4,944	7,654	12,598	182,081
Minnesota	61,020	3,452	10,699	14,151	231,907
Minnesota	84,143	5,828	4,590	10,418	123,813
Minnesota	82,386	2,674	3,215	5,889	71,480
Minnesota	104,119	8,493	10,055	18,548	178,142
Minnesota	107,574	3,982	10,175	14,157	131,602
Minnesota	265,000	13,464	38,778	52,242	197,140
Minnesota	537,318	32,282	56,350	88,632	164,953
Minnesota	433,000	16,412	23,673	40,085	92,575
Minnesota	407,000	18,347	137,078	155,425	381,880
Missouri	94,780	6,189	7,729	13,918	146,845
Missouri	90,022	4,940	9,365	14,305	158,906
Missouri	90,964	4,311	11,505	15,816	173,870
Missouri	39,618	3,882	1,447	5,329	134,510

Appendix C-2 (Cont'd)

Annual Energy Requirements (1980)
63 Hotels/Motels

Midwestern U.S.

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft
Missouri	207,934	10,546	15,483	26,029	125,179
Missouri	124,410	5,576	8,953	14,529	116,783
Missouri	261,718	14,995	17,443	32,438	123,943
Ohio	54,735	4,404	3,758	8,162	149,118
Ohio	48,860	4,238	3,868	8,106	165,902
Ohio	57,200	5,785	2,674	8,459	147,884
Ohio	95,278	7,586	5,990	13,576	142,488
Ohio	61,575	3,795	4,417	8,212	133,366
Ohio	53,818	2,360	9,136	11,496	213,609
Ohio	55,262	3,607	7,495	11,102	200,898
Ohio	86,139	3,290	9,908	13,198	153,217
Ohio	75,884	5,974	6,963	12,937	170,484
Ohio	17,108	2,059	-0-	2,059	120,353
Ohio	74,238	6,217	4,236	10,453	140,804
Ohio	88,838	6,810	4,880	11,690	131,587
Ohio	95,500	14,623	-0-	14,623	153,120
Ohio	109,362	7,067	10,848	17,915	163,814
Ohio	120,668	6,369	9,725	16,094	133,374
Ohio	126,902	6,372	11,807	18,179	143,252
Ohio	144,157	7,493	8,535	16,028	111,184
Ohio	165,974	13,967	13,093	27,060	163,038
Ohio	317,000	18,499	36,680	55,179	174,066
Ohio	263,400	16,788	30,673	47,461	180,186
Wisconsin	77,000	6,615	3,807	10,422	135,351
Wisconsin	62,791	3,445	5,138	8,583	136,692
Wisconsin	115,887	3,609	9,528	13,137	113,360
Wisconsin	134,601	8,874	499	26,373	195,935
Total/Average-63 Properties	10,029,949	592,538	1,008,15	00,690	159,591

Appendix C-3

Annual Energy Requirements (1980)
114 Hotels/Motels

Southeastern U.S.

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft
Alabama	72,745	6,933	5,293	12,226	168,066
Alabama	84,214	8,369	3,096	11,465	136,141
Alabama	87,058	6,622	5,048	11,670	134,048
Alabama	130,208	8,043	7,053	15,096	115,938
Alabama	101,157	7,475	4,106	11,581	114,485
Florida	55,448	4,899	2,398	7,297	131,601
Florida	59,247	4,514	752	5,266	88,882
Florida	51,682	6,148	439	6,587	127,452
Florida	145,400	11,509	10,084	21,593	148,508
Florida	17,108	1,233	-0-	1,233	72,072
Florida	17,108	1,544	-0-	1,544	90,250
Florida	28,800	3,906	-0-	3,906	135,625
Florida	28,560	2,602	-0-	2,602	91,106
Florida	14,400	1,614	-0-	1,614	112,083
Florida	66,872	6,246	3,791	10,037	150,093
Florida	77,706	8,599	856	9,455	121,677
Florida	119,548	13,121	6,234	19,355	161,902
Florida	107,709	11,868	4,259	16,127	149,728
Florida	129,364	9,914	7,366	17,280	133,576
Florida	105,280	7,665	5,322	12,987	123,357
Florida	148,592	13,869	5,429	19,298	129,872
Florida	107,291	8,158	5,856	14,014	130,617
Florida	133,106	9,756	6,782	16,538	124,247
Florida	188,697	18,833	7,572	26,405	139,933
Georgia	136,526	7,987	5,761	13,748	100,699
Georgia	29,280	2,992	-0-	2,992	102,186
Georgia	14,400	1,381	-0-	1,381	95,903
Georgia	43,200	3,840	-0-	3,840	88,889
Georgia	28,800	3,072	-0-	3,072	106,667
Georgia	28,800	2,357	1,403	3,760	130,555
Georgia	29,760	2,233	1,771	4,004	134,543
Georgia	28,800	3,409	-0-	3,409	118,368
Georgia	28,800	3,402	-0-	3,402	118,125
Georgia	1,170,600	99,746	47,846	147,592	126,082
Kentucky	37,928	4,048	3,188	7,236	190,783
Kentucky	48,961	4,940	-0-	4,940	100,897

Appendix C-3 (Cont'd)

Annual Energy Requirements (1980)
114 Hotels/Motels

Southeastern U.S. (Cont'd)

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft (Millions)
Kentucky	14,400	2,161	-0-	2,161	150,069
Kentucky	29,280	4,942	-0-	4,942	168,784
Kentucky	55,151	4,391	3,300	7,691	139,453
Kentucky	73,695	6,154	-0-	6,154	83,506
Kentucky	66,000	3,480	7,580	11,060	167,576
Kentucky	177,949	13,444	5,364	18,808	105,693
Mississippi	37,749	2,274	2,302	4,576	121,222
Mississippi	84,250	5,663	6,255	11,918	141,459
Mississippi	93,965	9,955	5,100	15,055	160,219
Mississippi	29,280	2,587	-0-	2,587	88,354
Mississippi	118,200	10,005	8,869	18,874	159,679
North Carolina	44,780	3,472	6,122	9,594	214,248
North Carolina	28,800	2,860	-0-	2,860	99,305
North Carolina	29,520	2,924	-0-	2,924	99,051
North Carolina	28,800	3,789	-0-	3,789	131,562
North Carolina	28,800	3,357	-0-	3,357	116,562
North Carolina	33,600	2,504	-0-	2,504	74,523
North Carolina	28,800	2,741	-0-	2,741	95,173
North Carolina	30,000	3,405	-0-	3,405	113,500
North Carolina	17,108	1,346	-0-	1,346	78,677
North Carolina	53,050	3,369	6,568	9,937	187,314
North Carolina	84,561	9,906	3,401	13,307	157,366
South Carolina	88,321	5,860	3,571	9,431	106,781
South Carolina	51,200	6,726	2,180	8,906	173,945
South Carolina	58,266	4,017	7,478	11,495	197,285
South Carolina	29,040	3,082	-0-	3,082	106,129
South Carolina	17,108	1,713	-0-	1,713	100,129
South Carolina	17,108	1,274	-0-	1,274	74,468
South Carolina	17,108	1,798	-0-	1,798	105,097
South Carolina	17,108	1,710	-0-	1,710	99,953
South Carolina	17,108	1,207	-0-	1,207	70,552
South Carolina	88,789	8,640	2,741	11,381	128,180
South Carolina	118,079	7,198	8,120	15,318	129,726
South Carolina	83,268	8,183	5,598	13,781	165,502
South Carolina	29,280	2,434	-0-	2,434	83,128
South Carolina	28,800	2,752	-0-	2,752	95,556

Appendix C-3

Annual Energy Requirements (1980)
114 Hotels/Motels

Southeastern U.S. (Cont'd)

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft
Tennessee	62,950	4,748	3,817	8,565	136,060
Tennessee	41,819	3,319	1,879	5,198	124,298
Tennessee	92,772	6,598	6,421	13,019	140,333
Tennessee	30,720	4,322	-0-	4,322	140,690
Tennessee	36,000	4,223	-0-	4,223	117,305
Tennessee	28,800	3,802	-0-	3,802	132,014
Tennessee	55,887	4,734	4,457	9,191	164,457
Tennessee	68,612	4,164	2,676	6,840	99,691
Tennessee	57,354	3,805	7,334	11,139	194,215
Tennessee	53,811	3,592	7,378	10,970	203,861
Tennessee	55,162	3,677	5,978	9,655	175,048
Tennessee	71,577	5,564	6,853	12,417	173.477
Tennessee	71,978	6,522	4,865	11,387	158,201
Tennessee	101,606	5,617	7,535	13,152	129,441
Tennessee	90,838	6,683	5,307	11,990	131,993
Tennessee	77,406	7,745	3,625	11,370	146,888
Tennessee	84,557	7,410	6,119	13,529	159,999
Tennessee	95,738	8,710	5,520	14,230	148,635
Tennessee	121,559	6,718	6,340	13,058	107,421
Tennessee	121,400	6,159	5,637	11,796	97,166
Tennessee	92,750	8,673	2,815	11,488	123,860
Tennessee	122,588	8,228	5,491	13,719	111,911
Tennessee	138,981	10,730	5,252	15,982	114,994
Tennessee	148,482	12,196	10,920	23,116	155,682
Tennessee	144,547	11,143	9,479	20,622	142,666
Tennessee	543,017	28,136	22,196	50,332	92,689
Virginia	29,280	3,567	-0-	3,567	121,823
Virginia	62,584	6,764	40	6,804	108,718
Virginia	17,108	1,275	-0-	1,275	74,527
Virginia	17,108	1,064	-0-	1,064	62,193
Virginia	17,108	1,378	-0-	1,378	80,547
Virginia	17,108	1,240	-0-	1,240	72,481
Virginia	17,108	1,352	-0-	1,352	79,027
Virginia	17,108	1,446	-0-	1,446	84,522
Virginia	65,032	5,019	5,785	10,804	166,134
West Virginia	47,860	3,924	3,073	6,997	146,197

Appendix C-3

Annual Energy Requirements (1980)
114 Hotels/Motels

Southeastern U.S. (Cont'd)

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft
West Virginia	48,860	5,453	3,640	9,093	186,103
West Virginia	56,201	3,980	3,421	7,401	131,688
West Virginia	59,720	3,199	5,535	8,734	146,299
West Virginia	65,924	4,795	7,512	12,307	186,684
West Virginia	77,377	5,435	4,061	9,496	122,724
West Virginia	161,144	1,048	2,884	3,932	244,005
Total/Average-114 Properties	8,939,017	722,327	420,099	1,142,426	127,802

Appendix C-4

Annual Energy Requirements (1980)
56 Hotels/Motels

South Central U.S.

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft
Arkansas	48,904	4,412	3,690	8,102	165,671
Arkansas	41,860	2,505	1,379	3,884	92,785
Arkansas	111,997	8,960	7,584	16,544	147,718
Arkansas	148,003	9,540	6,984	16,524	111,646
Louisiana	37,749	2,683	2,011	4,694	124,347
Louisiana	77,884	9,938	-0-	9,938	127,600
Louisiana	52,699	3,329	1,940	5,269	99,983
Louisiana	39,618	4,044	-0-	4,044	102,075
Louisiana	104,013	8,880	5,668	14,548	139,867
Louisiana	100,939	10,270	4,960	15,230	150,883
Louisiana	77,884	7,718	4,059	11,777	151,212
Louisiana	127,990	11,856	6,903	18,759	146,566
Louisiana	969,699	111,291	48,909	160,200	165,206
Oklahoma	86,314	7,078	5,975	13,053	151,227
Oklahoma	38,123	2,715	1,852	4,567	119,796
Oklahoma	150,375	12,689	428	13,117	87,229
Texas	18,688	890	1,301	2,191	117,241
Texas	28,031	1,457	1,587	3,044	108,594
Texas	37,001	2,214	1,693	3,907	105,592
Texas	28,779	1,479	2,832	4,311	149,797
Texas	38,123	2,481	1,495	3,976	104,294
Texas	37,375	2,541	2,015	4,556	121,900
Texas	37,375	2,266	2,460	4,726	126,448
Texas	37,375	2,575	1,737	4,312	115,371
Texas	53,804	4,861	3,058	7,919	147,182
Texas	38,123	2,307	2,089	4,396	103,874
Texas	38,123	2,609	1,702	4,311	113,081
Texas	38,870	2,971	1,740	4,711	121,199
Texas	38,870	2,021	1,474	3,495	89,915
Texas	38,870	2,235	1,446	3,681	94,700
Texas	39,618	4,110	571	4,681	118,153
Texas	41,113	2,563	1,986	4,549	110,646
Texas	41,860	2,986	1,960	4,946	118,156
Texas	91,602	6,601	5,036	11,637	127,039
Texas	45,598	2,502	1,706	4,208	92,285
Texas	45,598	2,723	1,694	4,417	96,868

Appendix C-4 (Cont'd)

Annual Energy Requirements (1980)
56 Hotels/Motels

South Central U.S.

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft
Texas	47,466	2,895	902	3,797	79,994
Texas	47,840	2,340	3,180	5,520	115,385
Texas	48,214	2,927	2,472	5,399	111,980
Texas	48,214	2,865	3,034	5,899	122,350
Texas	62,707	5,429	3,479	8,908	142,058
Texas	62,790	4,496	1,519	6,015	95,796
Texas	90,604	6,245	5,841	12,086	133,393
Texas	59,897	8,590	2,429	11,019	183,966
Texas	73,907	5,327	6,612	11,939	161,540
Texas	93,572	5,002	4,898	9,900	105,800
Texas	78,412	5,480	5,712	11,192	142,733
Texas	74,750	6,204	1,425	7,629	102,060
Texas	113,282	6,781	6,642	13,423	118,492
Texas	69,082	4,437	5,745	10,182	147,390
Texas	88,186	7,165	6,275	13,440	152,405
Texas	132,168	7,085	6,306	13,391	101,318
Texas	171,205	9,921	13,832	23,753	138,740
Texas	163,206	11,572	13,026	24,598	150,717
Texas	203,885	16,852	14,896	31,748	155,715
Texas	593,807	68,857	77,485	146,342	246,447
Total/Average-56 Properties	5,352,041	462,770	327,634	790,404	147,683

Appendix C-5

Annual Energy Requirements (1980)
25 Hotels/Motels

Rocky Mountain States

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft
Arizona	38,123	1,924	1,891	3,815	100,070
Arizona	40,365	2,478	1,751	4,229	104,768
Arizona	67,924	2,682	2,317	4,999	73,597
Arizona	57,387	3,607	4,053	7,660	133,480
Arizona	57,714	3,421	5,672	9,093	157,552
Arizona	64,695	5,903	3,145	9,048	139,856
Arizona	71,426	5,415	3,002	8,417	117,842
Arizona	75,353	5,095	7,598	12,693	168,447
Colorado	30,570	2,006	2,204	4,210	137,717
Colorado	47,512	3,076	2,809	5,885	123,864
Colorado	46,704	3,016	2,689	5,705	122,152
Colorado	61,762	2,221	8,440	10,661	172,614
Colorado	41,860	2,945	2,918	5,863	140,062
Colorado	48,588	2,960	3,021	5,981	123,096
Colorado	94,846	4,223	9,488	13,711	144,560
Colorado	183,000	4,858	14,794	19,652	107,388
Idaho	153,315	14,969	-0-	14,969	97,636
Nevada	66,357	2,805	6,734	9,539	143,753
Nevada	95,689	5,627	3,434	9,061	94,692
Nevada	152,763	7,299	8,259	15,558	101,844
Nevada	263,274	16,248	10,256	26,504	100,670
Nevada	2,388,361	189,423	148,978	338,401	141,668
New Mexico	157,686	8,085	8,451	16,536	104,866
New Mexico	39,618	1,726	1,632	3,358	84,257
Utah	80,649	3,486	12,537	16,023	198,676
Total/Average-25 Properties	4,425,541	305,498	276,073	581,571	131,412

Appendix C-6

Annual Energy Requirements (1980)
41 Hotels/Motels

Pacific Coast States

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft
Alaska	137,104	7,747	13,525	21,272	155,152
California	28,960	1,407	1,193	2,600	89,779
California	29,800	1,233	909	2,142	71,879
California	29,797	977	984	1,961	66,935
California	30,570	974	1,716	2,690	87,994
California	31,147	1,864	413	2,277	73,105
California	45,620	1,470	1,649	3,119	68,369
California	46,986	1,633	2,137	3,770	80,237
California	42,931	1,515	2,241	3,756	87,409
California	39,405	1,641	1,277	2,918	74,051
California	48,821	1,601	1,784	3,385	69,335
California	70,883	3,280	3,577	6,857	96,737
California	66,665	3,432	2,765	6,197	92,957
California	63,898	3,875	2,954	6,829	106,873
California	55,689	2,355	2,348	4,703	84,451
California	59,732	2,959	2,884	5,843	97,820
California	76,227	2,925	3,064	5,989	78,568
California	143,081	7,424	6,831	14,255	99,628
California	101,006	6,285	11,310	17,595	174,198
California	77,309	3,327	4,946	8,273	107,012
California	95,646	3,088	4,694	7,782	81,363
California	109,325	5,114	4,072	9,186	84,025
California	83,959	4,365	5,845	10,210	121,607
California	118,792	6,814	7,250	14,064	118,392
California	104,280	5,549	4,775	10,324	99,003
California	144,716	13,505	8,797	22,302	154,109
California	152,060	7,866	9,650	17,516	115,191
California	256,608	7,461	12,447	19,908	77,581
California	195,058	5,590	8,276	13,866	71,087
California	300,434	11,493	21,244	32,737	108,965
California	192,812	11,788	3,373	15,161	78,631
California	257,855	16,177	14,094	30,271	117,395
California	334,804	8,711	11,667	20,378	60,865
California	1,186,000	58,406	72,114	130,520	110,050
Hawaii	90,318	9,943	2,809	12,752	141,190
Hawaii	233,626	20,165	11,340	31,505	134,852

Appendix C-6

Annual Energy Requirements (1980)
41 Hotels/Motels

Pacific Coast States
(Cont'd)

State	Sq Ft	Btu/Elec (Millions)	Btu/Fossil (Millions)	Total Btu's (Millions)	Btu/Sq Ft
Hawaii	151,341	7,796	816	8,612	56,905
Oregon	304,965	16,549	23,881	40,430	132,573
Oregon	92,064	3,441	9,538	12,979	140,978
Washington	124,175	4,854	9,444	14,298	115,144
Washington	30,545	2,189	4,276	6,465	211,355
Total/Average-41 Properties	5,785,014	288,788	318,909	607,697	105,047